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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,844	08/06/2001	Shujath M. Ali	DEX-0176	7509

32800 7590 03/15/2006

LICATA & TYRRELL P.C.
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MARLTON, NJ 08053

EXAMINER

YU, MISOOK

ART UNIT	PAPER NUMBER
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1642

DATE MAILED: 03/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/787,844

Applicant(s)

ALI ET AL.

Examiner

MISQOK YU, Ph.D

Art Unit

1642

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8,9,13-15,17-19 and 21-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8,9,13-15,17-19 and 21-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/16/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Exhibit A (sequence alignment).

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/16/2005, and 4/15/2005 has been entered.

Claims 8, 9, 13-15, 17-19, and 21-33 are pending and examined on merits.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

This Office action contains new grounds of objection to the claims.

Claim Objection, Newly Objected

Since claims 13, 17, 21, 22-24, 26, and 27 depend on claim 8 reciting "Pro104" limited to SEQ ID NO: 2, all of the limitations in the rejected dependent claims are the inherent characteristics of SEQ ID NO: 2, thus not further limiting the base claims.

Claim Rejections - 35 USC § 112, Maintained

Claims 8, 9, and 13-15, 17-19, and 21-33 remain rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement for the reason of record. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

This rejection is based on the Office's interpretation of the nature of the invention as drawn to a method of imaging of a gynecologic cancer using an monoclonal or polyclonal antibody which specifically binds to SEQ ID NO: 2 (claims 8, 13), wherein said antibody is labeled (claim 9), or method of delivering a derivatized antibody (the specification at page 7 line 14, appears to limit "derivatized" as attaching cytotoxic agent or other art-known agents to an antibody that binds to SEQ ID NO: 2), which specifically binds to SEQ ID NO:2, to a gynecologic cancer cell in vivo (claims 14, 15, 17), or delivering said derivatized antibody to a gynecologic tumor in vivo (Claims 18, 19, 21), wherein new claims 22-27 characterizes that the protein of the base claims to be protease with active domains, or SEQ ID NO:2, wherein the new claims 28-33 specifies various gynecologic cancer.

Applicant argues that instant Pro104 is same as testisin that are highly expressed in ovarian cancers as disclosed by Tang et al., (2005, Cancer Res., vol. 65, pages 868-78, IDS filed on 03/16/2005), and also as disclosed in Papkoff et al (IDS filed on 03/16/2005).

Applicant's arguments and data shown in the poster presentation of Papkoff et al., and the post-filing publication of Tang et al., have been fully considered, but unpersuasive for the following reasons. First, during the prosecution history, the limitation "Pro104" in the instant claims is determined to be limited to the instant SEQ ID NO: 2 protein. See the Office action mailed on 04/21/2004, and applicant's subsequent response, as well as the interpretation of the claims. The specification as originally filed does not reasonably communicates that the protein known in the art, as "testisin" is

same as the instantly claimed Pro104. The attached sequence alignment aligning the instant SEQ ID NO: 2 against what is the protein known as testisin in the art (Exhibit A) demonstrate that instant SEQ ID NO: 2 is not same as testisin. Therefore, the argument with Tang et al., is not germane to the instantly claimed invention.

As for argument with Papkoff et al., Papkoff et al., discloses the Pro104 is over-expressed in ovarian cancer. However, Papkoff et al., do not establish whether Pro104 is same as the instant SEQ ID NO:2. In fact, one of the figure in the poster, top in the 2nd column appears to indicate that Pro104 in Papkoff et al., is testisin, not instant SEQ ID NO:2. In addition, Papkoff et al., do not establish that whether one could image gynecologic cancers using polyclonal or monoclonal antibody specifically binding to the instant SEQ ID NO:2 encoded by instant SEQ ID NO:1. Papkoff et al., teach that detection of overexpression of Pro104 (testisin) in ovarian cancer tissue samples as compared to normal ovarian tissue.

As stated before in the two previous Office actions, Aloj et al., (2002, Biopolymers. Vol. 66, pages 370-80) teach that in order to target specific molecules inside the body using radiopharmaceuticals such as a radioisotope-labeled antibody, several parameters have to be considered: (1) the target protein should be over-expressed in cancer to be imaged; (2) a radiopharmaceutical should be tested to see whether said radiopharmaceutical specifically binds to the *in vivo* target *in vivo*; (3) how the unbound radiopharmaceutical is cleared for minimizing unwanted high background (note the abstract, and pages 372-373). The instant specification has failed to teach with a reasonable certainty that the protein encoded by SEQ ID NO:1 is a gynecologic

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cancer antigen while the art (see Hooper et al., above) suggests that the protein encoded by SEQ ID NO:1 is a tumor suppressor. Low et al., (1995, Radiology, vol. 195, pages 391-400) also teach that in order to image an ovarian cancer (a species of a gynecologic cancer), selection of an antibody that specially binds to an ovarian cancer-associated antigen, is the first necessary step (see page 391 middle column; the authors selected an antibody targeting Tag-72, a previously known ovarian cancer antigen). Low et al., further teach accuracy of imaging using an antibody directed to a cancer antigen has to be evaluated against other known cancer detection methods such as histology or pathology (note page 393 under the heading "Pathologic Proof", and Table 3 at page 396). Likewise, Krag et al., (1993, Arch. Surg. Vol. 128, pages 819-23) teach method of imaging an ovarian cancer using a radio-labeled (i.e. indium 111-labeled) CYT-103 monoclonal antibody requires selection of an antibody capable of binding to an antigen that is over-expressed in an ovarian cancer (see page 820 under the heading "Patients, Materials, and Methods").

Considering the unpredictable state of art, limited guidance, no examples in the specification how to use the instantly claimed invention, broad breath of the claims, it is concluded that undue experimentation is required to practice the invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MISOOK YU, Ph.D whose telephone number is 571-272-0839. The examiner can normally be reached on 8 A.M. to 5:30 P.M., every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Siew can be reached on 571-272-0787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

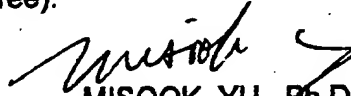

MISOOK YU, Ph.D
Examiner
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EXHIBIT A

page 1 of 2

GanCore version 5.1.6
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CM protein - protein search, using sw model

Run on: April 6, 2004, 14:08:54 ; Search time 17 Seconds
(without alignments)
1001.585 Million cell updates/sec

Title: US-09-787-844-2
Perfect score: 1792
Sequence: 1 RRGGRQANRANGRQAL.....PKNFLPFLPFLNALPILQPV 377

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 04
Maximum Match 1004
Listing first 45 summaries

Database : SwissProt_42.0

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SDPMAS188

Result No.	Score	Match	Query Length	ID	Description
1	1728	96.4	314	1 TEST_HUMAN	Q96806 homo sapien
2	1447	64.0	324	1 TEST_MOUSE	Q91317 mus musculus
3	803	33.6	321	1 TEST_HUMAN	Q91317 mus musculus
4	580	32.4	343	1 P888_HUMAN	Q16631 homo sapien
5	574	32.0	290	1 P827_HUMAN	Q96873 homo sapien
6	562.5	31.4	342	1 P688_MOUSE	Q96807 rattus norv
7	561.5	31.3	342	1 P688_MOUSE	Q96841 mus musculus
8	556.5	31.1	311	1 TAYT_MOUSE	Q96817 mus musculus
9	544	30.4	273	1 TAYT_SHEEP	Q96842 ovie arie
10	543	30.3	311	1 TAYT_MOUSE	Q96810 mus musculus
11	531.5	29.7	317	1 B584_HUMAN	Q91314 homo sapien
12	528.5	29.5	270	1 TAYT_MOUSE	Q91342 carlossa un
13	522	29.1	275	1 TEST_PIG	Q96241 mus scrofa
14	520	29.0	306	1 B584_MOUSE	Q96810 mus musculus
15	515	28.7	275	1 T851_HUMAN	Q15661 homo sapien
16	514.5	28.7	275	1 KAL_MOUSE	Q23462 mus musculus
17	514	28.7	275	1 T851_HUMAN	P20331 homo sapien
18	513	28.6	338	1 KAL_HUMAN	Q03952 homo sapien
19	512	28.6	275	1 MCT5_MOUSE	P21845 mus musculus
20	511	28.5	275	1 TAYT_MOUSE	P19444 mus musculus
21	511	28.5	338	1 TAYT_MOUSE	P19444 mus musculus
22	509.5	28.4	273	1 MCT7_MOUSE	P27438 rattus norv
23	509	28.4	311	1 TAYT_MOUSE	Q91314 homo sapien
24	508.5	28.4	454	1 TAYT_MOUSE	Q91314 homo sapien
25	507	28.3	273	1 MCT7_MOUSE	P57727 homo sapien
26	505	28.2	453	1 TAYT_MOUSE	Q91314 mus musculus
27	500	27.9	274	1 MCT5_MOUSE	Q91314 mus musculus
28	499	27.8	273	1 TAYT_MOUSE	P50143 rattus norv
29	490.5	27.4	435	1 TAYT_MOUSE	P15157 homo sapien
30	489.5	27.3	418	1 TAYT_MOUSE	Q96841 mus musculus
31	487.5	27.3	455	1 TAYT_MOUSE	Q96841 mus musculus
32	483.5	27.0	625	1 PALL_HUMAN	P03351 homo sapien
33	478	26.7	437	1 TAYT_MOUSE	Q91314 homo sapien

ALIGNMENTS

RESULT 1	TEST_HUMAN	STANDARD	PRT	314 AA
14	477.5	25.6	417	1 H8P8_HUMAN
15	472.5	25.4	422	1 DES1_HUMAN
16	469	25.2	430	1 H8P8_MOUSE
17	468	25.2	432	1 H8P8_MOUSE
18	459.5	25.0	432	1 TAYT_HUMAN
19	457.5	25.0	432	1 TAYT_HUMAN
20	457.5	25.0	432	1 TAYT_HUMAN
21	455.5	25.4	415	1 ACRO_PIG
22	455.5	25.4	415	1 ACRO_PIG
23	455.5	25.4	415	1 ACRO_PIG
24	455.5	25.4	415	1 ACRO_PIG
25	455.5	25.4	415	1 ACRO_PIG
26	455.5	25.4	415	1 ACRO_PIG
27	455.5	25.4	415	1 ACRO_PIG
28	455.5	25.4	415	1 ACRO_PIG
29	455.5	25.4	415	1 ACRO_PIG
30	455.5	25.4	415	1 ACRO_PIG
31	455.5	25.4	415	1 ACRO_PIG
32	455.5	25.4	415	1 ACRO_PIG
33	455.5	25.4	415	1 ACRO_PIG
34	455.5	25.4	415	1 ACRO_PIG
35	455.5	25.4	415	1 ACRO_PIG
36	455.5	25.4	415	1 ACRO_PIG
37	455.5	25.4	415	1 ACRO_PIG
38	455.5	25.4	415	1 ACRO_PIG
39	455.5	25.4	415	1 ACRO_PIG
40	455.5	25.4	415	1 ACRO_PIG
41	455.5	25.4	415	1 ACRO_PIG
42	455.5	25.4	415	1 ACRO_PIG
43	455.5	25.4	415	1 ACRO_PIG
44	455.5	25.4	415	1 ACRO_PIG
45	455.5	25.4	415	1 ACRO_PIG

